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James H Morris
Wolf Greenfield & Sacks PC
Federal Reserve Plaza
600 Atlantic Avenue
Boston, MA 02210-2211

EXAMINER

LY, NGHI H

| ART UNIT | PAPER NUMBER |
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2686

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/615,430 | Applicant(s) WUIDART ET AL. | |
| | Examiner Nghi H. Ly | Art Unit 2686 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-14 and 16-39 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4,6-13 and 23-32 is/are allowed.
- 6) ☒ Claim(s) 14,16-20 and 35-39 is/are rejected.
- 7) ☒ Claim(s) 21,22,33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 36 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 36, the newly added limitations recite "one or more components are sized to produce, at the particular distance, a coupling between the terminal and the at least one transponder that is slightly greater than a minimum amount of coupling necessary for proper operation of the at least one transponder".

The specification page 7, lines 25-27 of the present invention discloses that "For a given frequency and sizing determining the operating conditions, voltage V2 decreases on either side of the optimal coupling position." The disclosure does not disclose "*the at least one transponder that is slightly greater than a minimum amount of coupling necessary for proper operation of the at least one transponder*". Therefore, the above emphasized limitation was not described in the specification at the time the invention was filed.

Regarding claim 37, the newly added limitations recite "the terminal and the transponder have physical properties that define a minimum distance by which the oscillating circuit of the terminal and the oscillating circuit of the at least one transponder can be separated, wherein the particular distance is approximately equal to the minimum distance".

The specification page 8, lines 10-12 of the present invention discloses that "a distance operating point such that moving away from this operating point strongly decreases the coupling between the oscillating circuits." The disclosure does not disclose "*wherein the particular distance is approximately equal to the minimum distance*". Therefore, the above emphasized limitation was not described in the specification at the time the invention was filed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being obvious over DeMichele (US 5,084,699) and further in view of Burdick et al (US 6,424,820) and Schneider et al (US 6,356,738).

Regarding claim 14, DeMichele teaches a transponder (see fig.6) comprising: an oscillating circuit adapted to be excited by an external electromagnetic field when the transponder enters the electromagnetic field (see column 8, lines 28-41), the oscillating circuit including an inductance (see column 8, lines 28-41 and column 9, lines 9-11) and wherein a stray capacitance of the inductance acts as a capacitive element for the oscillating circuit (also see column 9, lines 9-11).

DeMichele does not specifically disclose a coupling coefficient between the transponder and a read/write terminal that generates the electromagnetic field rapidly decreases when a distance separating the transponder from the read/write terminal becomes greater than the particular distance.

Burdick teaches a coupling coefficient between the transponder and a read/write terminal that generates the electromagnetic field rapidly decreases when a distance separating the transponder from the read/write terminal becomes greater than the

particular distance (see Burdick, column 6, lines 12-21, in Burdick, "1-3 meters" reads on Applicant's "particular distance").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Burdick into the system of DeMichele so that user can be accommodated in a small physical area without interference (see Burdick, column 6, lines 14-15).

The combination of DeMichele and Burdick does not specifically disclose components of the oscillating circuit are sized based on a particular distance, which serves as an operating point between the transponder and the terminal to produce an operating condition in which a coupling coefficient between the transponder and read/write terminal the generates the electromagnetic field.

Schneider teaches components of the oscillating circuit are sized based on a particular distance (see column 3, lines 55-59), which serves as an operating point between the transponder and the terminal to produce an operating condition in which a coupling coefficient between the transponder and read/write terminal the generates the electromagnetic field (also see column 3, lines 55-59, the teaching of Schneider inherently teaches Applicant's claimed limitations. If not, as alleged by the Applicant, the transponder of Schneider does not need to "*sized and shaped*" in "specified distance").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Schneider into the system of DeMichele and Burdick in order to provide a contact-less smartcard system in which a

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transponder communicates using a defined protocol (see Schneider, column 2, lines 48-50).

Regarding claim 16, the combination of DeMichele, Burdick and Schneider teaches particular distance corresponds to approximately 1-3 meters (see Burdick, column 6 lines 15-21). The combination of DeMichele, Burdick and Schneider does not specifically disclose the particular distance corresponds to approximately 1 centimeter. However, such distance range would have been obvious since the particular distance range could have been determined by the inventors' needs e.g., use a distance range which can minimize the interference with other users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of DeMichele, Burdick and Schneider as claimed, in order to provide another way of implementing the transponder.

6. Claims 17, 19, 20, 35-37 and 39 are rejected under 35 U.S.C. 103(a) as being obvious over the Applicant's admitted prior art in view of Burdick et al (US 6,424,820) and further in view of Schneider et al (US 6,356,738).

Regarding claims 17 and 35, the Applicant's admitted prior art teaches a system for data transfer comprising: a terminal including a series oscillating circuit having a first inductive element (see fig.1, L1) and a first capacitive element (see fig.1, C1), and a transponder including a parallel oscillating circuit having a second inductive element (see fig.1, L2) and a second capacitive element (see fig.1, C2 and see Applicant's Background of The Invention page 2 lines 4-11).

The Applicant's admitted prior does not specifically disclose the first and second inductive elements and first and second capacitive elements such that a coupling coefficient between the series oscillating circuit and the parallel oscillating circuit decreases rapidly when a distance between the terminal and the transponder is greater than a particular distance.

Burdick teaches inductive elements and capacitive elements such that a coupling coefficient between oscillating circuit decreases rapidly when a distance between the terminal and the transponder is greater than a particular distance (see Burdick, column 6 lines 12-21, in Burdick, "1-3 meters" reads on Applicant's "particular distance" and the signal strength will fall off in any distance less than 1 meter or greater than 3 meter).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Burdick into the system of the Applicant's admitted prior art so that user can be accommodated in a small physical area without interference (see Burdick, column 6 lines 14-15).

The combination of the Applicant's admitted prior art and Burdick does not specifically the first and second inductive elements and first and second capacitive elements are sized based on a particular distance, which serves as an operating point between the transponder and the terminal to produce an operating condition in which a coupling coefficient between the circuits.

Schneider teaches components of the oscillating circuit are sized based on a particular distance (see column 3, lines 55-59), which serves as an operating point between the transponder and the terminal to produce an operating condition in which a

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coupling coefficient between the circuits (also see column 3, lines 55-59, the teaching of Schneider inherently teaches Applicant's claimed limitations. If not, as alleged by the Applicant, the transponder of Schneider does not need to "*sized and shaped*" in "*specified distance*").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Schneider into the system of the combination of the Applicant's admitted prior art and Burdick in order to provide a contact-less card smart card system in which a transponder communicates using a defined protocol (see Schneider, column 2, lines 48-50).

Regarding claim 19, the combination of Burdick and the Applicant's admitted prior art teaches the particular distance is approximately 1-3 meters (see Burdick, column 6 lines 15-21). The combination of Burdick and the Applicant's admitted prior art does not specifically disclose the particular distance is approximately 1 centimeter. However, such distance range would have been obvious since the particular distance range could have been determined by the inventors' needs e.g., use a distance range which can minimize the interference with other users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of the Applicant's admitted prior art, Burdick and Schneider as claimed, in order to provide another way of implementing the transponder.

Regarding claim 20, the combination of the Applicant's admitted prior art, Burdick and Schneider teaches the number of turns of an inductance of the parallel oscillating

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circuit of the transponder is 25 (see Burdick, column 40 line 52). The Applicant's admitted prior art and Burdick does not specifically disclose the first inductive element comprises a single turn. However, such single turn would have been obvious since the particular number of turns could have been determined by the inventors' needs e.g., use a number of turns which can optimize the transmission coverage area that also minimizes interference.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of the Applicant's admitted prior art, Burdick and Schneider as claimed, in order to provide another way of implementing the transponder.

Regarding claim 36, the Applicant's admitted prior art, Burdick and Schneider further teaches the one or more components are sized to produce, at the particular distance, a coupling between the terminal and the at least one transponder that is slightly greater than a minimum amount of coupling necessary for proper operation of the at least one transponder (see Schneider, column 3, lines 55-59).

Regarding claim 37, the Applicant's admitted prior art, Burdick and Schneider further teaches the terminal and the transponder have physical properties that define a minimum distance by which the oscillating circuit of the terminal and the oscillating circuit of the at least one transponder can be separated, wherein the particular distance is approximately equal to the minimum distance (see Schneider, column 3, lines 55-59).

Regarding claim 39, the combination of the Applicant's admitted prior art, Burdick and Schneider teaches particular distance corresponds to approximately 1-3 meters

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(see Burdick, column 6 lines 15-21). The combination of the Applicant's admitted prior art, Burdick and Schneider does not specifically disclose the particular distance corresponds to approximately 1 centimeter. However, such distance range would have been obvious since the particular distance range could have been determined by the inventors' needs e.g., use a distance range which can minimize the interference with other users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of the Applicant's admitted prior art, Burdick and Schneider as claimed, in order to provide another way of implementing the transponder.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being obvious over the Applicant's admitted prior art in view of Burdick et al (US 6,424,820) and further in view of Schneider et al (US 6,356,738) and DeMichele (US 5,084,699).

Regarding claim 18, the combination of the Applicant's admitted prior art, Burdick and Schneider teaches the electromagnetic transponder of claim 17. The Applicant's admitted prior art, Burdick and Schneider does not specifically disclose a capacitive element of the parallel oscillating circuit is provided by a tray capacitance of an inductance of the parallel oscillating circuit.

DeMichele teaches a capacitive element of the parallel oscillating circuit is provided by a tray capacitance of an inductance of the parallel oscillating circuit (see column 9, lines 9-11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of DeMichele into the system of the Applicant's admitted prior art, Burdick and Schneider in order to provide a novel electromagnetic field transmission and detection system which can simultaneously transmit a high intensity magnetic field and detect a localized low intensity magnetic field (see DeMichele, column 20-25).

8. Claim 38 is rejected under 35 U.S.C. 103(a) as being obvious over the Applicant's admitted prior art in view of Burdick et al (US 6,424,820) and further in view of Schneider et al (US 6,356,738) and Pobanz et al (US 5,525,993).

Regarding claim 38, the combination of the Applicant's admitted prior art, Burdick and Schneider teaches the electromagnetic transponder of claim 17. The Applicant's admitted prior art, Burdick and Schneider does not specifically disclose the particular distance is greater than a distance between the oscillating circuit of the terminal and the oscillating circuit of the transponder that results in a greatest voltage across the oscillating circuit of the transponder.

Pobanz teaches the particular distance is greater than a distance between the oscillating circuit of the terminal and the oscillating circuit of the transponder that results in a greatest voltage across the oscillating circuit of the transponder (see fig.4, the curve at a highest point reads on Applicant's "a greatest voltage").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Pobanz into the system of the

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Applicant's admitted prior art, Burdick and Schneider in order to provide a transponder that is activated by an interrogation beam to upconvert and radiate a digitally modulated identification tone (see Pobanz, column 1, lines 9-13).

Allowable Subject Matter

9. Claims 21, 22, 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 21, 22, 33 and 34, the combination of the Applicant's admitted prior art, Burdick and Schneider teaches claims 14 and 17. The combination of the Applicant's admitted prior art, Burdick and Schneider fails to teach the claimed limitations of claims 21, 22, 33 and 34.

10. Claims 1-4, 6-13 and 23-32 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 1, 9, 23 and 30, are allowable over the prior art of record for the reasons as stated in the Office action dated 06/09/2004 (page 10).

Dependent claims 2-4, 6-8, 10-13, 24-29, 31 and 32 are allowable for same reason.

Response to Arguments

11. Applicant's arguments filed 08/19/05 have been fully considered but they are not persuasive.

On page 13 of Applicant's remarks, Applicant argues that the combination of DeMichele, Burdick and Schneider is improper.

In response to applicant's argument that there is no suggestion to combine the references (*or* the combination is improper), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to do so found either in the references themselves so that user can be accommodated in a small physical area without interference (see Burdick, column 6, lines 14-15) *and* provide a contact-less smartcard system in which a transponder communicates using a defined protocol (see Schneider, column 2, lines 48-50).

On pages 14-16 of Applicant's remarks, Applicant argues that "Schneider does not teach sizing components of a transponder based on such distance".

The Examiner, however, disagrees. Schneider does indeed teach components of the oscillating circuit are sized based on a particular distance (see column 3, lines 55-59), which serves as an operating point between the transponder and the terminal to

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produce an operating condition in which a coupling coefficient between the transponder and read/write terminal the generates the electromagnetic field (also see column 3, lines 55-59, the teaching of Schneider inherently teaches Applicant's claimed limitations. If not, as alleged by the Applicant, the transponder of Schneider does not need to "*sized and shaped*" in "*specified distance*"). In addition, Applicant's attention is directed to the rejection of claims 14, 17 and 35 above.

On page 14 of Applicant's remarks, Applicant further argues that DeMichele and Burdick do not disclose components of an oscillating circuit sized based a particular distance and even if DeMichele, Burdick and Schneider are combined, no resulting combination would teach or suggest the limitation of claim 14.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Schneider teaches components of an oscillating circuit sized based a particular distance (see Schneider, column 3, lines 55-59) and the combination of DeMichele, Burdick and Schneider teaches the limitation of claim 14. In addition, Applicant's attention is directed to the rejection of claim 14 above.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

NHL
10/19/05



CHARLES APPIAH
PRIMARY EXAMINER